CHUNHUI LIU

Master Student in Computer Vision, Carnegie Mellon University

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RESEARCH EXPERIENCE

Applied Scientist Intern

Amazon AWS Rekognition

May 2019 – Ongoing Seattle, WA, U.S.A

Spatial Temporal Action Localization

- Design a balanced training scheme to deal with long-tail action data.
- Design a deep index module to modeling temporal information selection. <Caffe2 in Python>

Research Assistant

Peking University

Feb. 2016 – Jul. 2018 Beijing, China

Advisor: Dr. Jiaying Liu, Associate Professor

Skeleton-based Action Recognition and Online Detection

- Proposed a LSTM-based Temporal Perceptive Network with short-term kernel to capture detailed action feature. This method win the ACCV2016 skeleton-based action recognition workshop. <Keras>
- Proposed a LSTM-based online network to detect action intervals and forecast action occurrences synchronously. <Lasagne in Python>
- Built a largest skeleton-based action dataset for continues action detection, which was used for IEEE ICME 2017 workshop.
- Published 3 paper in ACM Multimedia W 2017, BMVC 2017, and ICASSP 2017 (2 first author, 1 second author); Filed one pending-patent in China. (first author)

Research Summer Intern

Carnegie Mellon University

Jun. 2017 – Sep. 2017 Pittsburgh, PA, U.S.A

Advisor: Deva Ramanan, Associate Professor

- Proposed a pixel-wise non-parametric method to interpret pixel-wised CNNs based on Nearest Neighbors. Technical Report <Tensorflow in Python>

SELECTED PROJECTS

Embedded Pedestrian Tracking and Detection

Carnegie Mellon University, Capstone Project

Feb 2019 – Ongoing

- Developed a real-time pedestrian tracking system, MoSiamRPN, extended the single object tracking algorithm to multi object environment.

Mixed-Reality Educational System for Children

NoRILLA

Feb 2019 – Ongoing

- Developed vision module for NoRILLA education system, a patented mixed-reality educational system bridging physical and virtual worlds to improve STEM learning for children in primary schools.

SELF INTRODUCTION

I have experience in modeling human in the world using computer vision and machine learning techniques. My previous work mainly focused on skeleton-based action recognition, online action detection, spatial-temporal action localization, and pedestrian tracking. I am also familiar with Generative Adversarial Networks, Object Detection, Weakly Supervised / Unsupervised Learning, Visual Question Answering.

SKILLS

PyTorch, Caffe2 ●●●●●
TensorFlow, Keras, Theano ●●●○○

Python, C ●●●●●
C++, LaTeX, JAVA ●●●●○
HTML, JavaScript, Lisp ●●○○○

Deep Learning, Algorithm Design ●●●●●
Operation System, Networking ●●●○○

EDUCATION

M.Sc. in Computer Vision

Carnegie Mellon University

Aug. 2018 – Dec. 2019 Pittsburgh, U.S.A

– GPA: 4.17/4.0

B.Sc. in Computer Science, Summa Cum Laude

Peking University

Sep. 2014 – Jun. 2018 Beijing, China

– GPA: 3.59/4.0
– Outstanding Graduation Award of Beijing
– Excellent Research Award of Peking University
– Outstanding Student Award of Peking University

PRIZE

ACCV Workshop Winner
Large Scale 3D Human Activity Analysis Challenge in Depth Videos, 2016

Meritorious Prize
The Mathematical Contest in Modeling (MCM), U.S.A, 2016

Bronze Prize
National Olympiad in Informatics (NOI), China, 2013